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REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
DR-1024 A LIEVE	ON NO. 3. RECIPIENT'S CATALOG NUMBER
19305A GSRS Missile Wo. 1044	5. TYPE OF REPORT & PERIOD COVER
Round the V-34	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(*)	8. CONTRACT OR GRANT NUMBER(*)
White Sands Meteorological Team	DA Task 1T6657-2D126-02
9. PERFORMING ON THE AND A DRESS	10. PROGRAM ELEMENT, PROJECT, TAS AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS	.12 GEFORT DATE
US Army Electronics Research & Development Com Atmospheric Sciences Laboratory	May 1979
White Sands Missile Range, New Mexico 14. MONITORING AGENCY NAME & ADDRESS(If different from Controlling O	ffice) 15. SECURITY CLASS. (of this report)
US Army Electronics Research & Development Com	UNCLASSIFIED 154. DECLASSIFICATION/DOWNGRADIN SCHEDULE
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18. SUPPLEMENTARY NOTES	
19. KEY WORDS (Continue on reverse side if necessary and identity by block	number)
1. Ballistics 2. Meteorology 3. Wind	
20. ABSTRACT (Continue on reverse side if necessary and identify by block n	umber)

DD FORM 1473 EDITION OF I NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

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INTRODUCTION

19305A GSRS , Missile Number 1044 , Round Number V-34 , was launched from LC-33 , White Sands Missile Range (WSMR), New Mexico. at 1200 MDT, 31 May 1979 . The scheduled launch time was 1200 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

- a. Surface
- (1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3) , wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.
- (2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.
 - b. Upper Air
- (1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

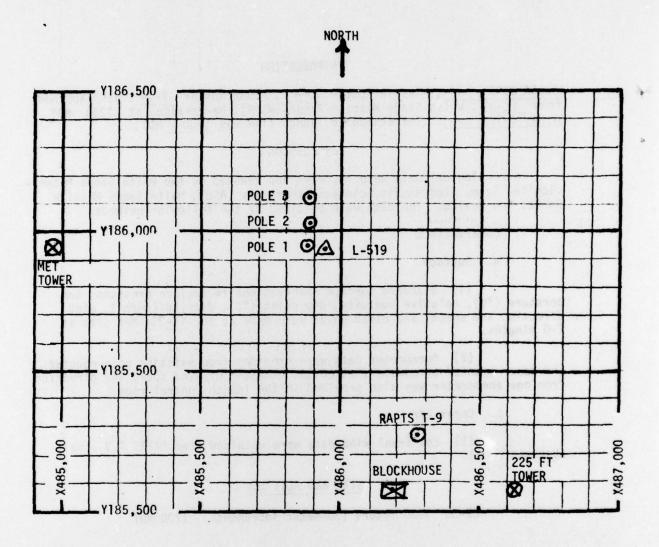
SITE AND ALTITUDE

LC-33 1020 meters (30-meter increments) 1200 MDT

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 62,500 feet in 500-feet increments.

SITE AND TIME

SMR 1125 MST



- MET TOWER 4 Bendix Model T-120 Anemometers at 12 ft, 62 ft, 102 ft and 202 ft with E/A recorders.
- 2. POLE ANE:10METER Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 38.7 ft
 - (b) Pole #2 53.0 ft
 - (c) Pole #3 83.6 ft
- 3. 225 FT WIND TOWER 5 Bendix Model T-120 Anemometers at 35 ft, 88 ft, 128 ft, 168 ft and 200 ft with 5 X-Y visual indicators in Blockhouse.
- 4. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar

TABLE 1. SURFACE OBSERVATIONS TAKEN AT 1200 MDT, 31 MAY 1979 AT LC-33, 19305A GSRS, MISSILE NO. 1044, ROUND NO. V-34

ELEVATION	3977.30	FT/MSL
PRESSURE	878.4	MBS
TEMPERATURE	29.8	°C
RELATIVE HUMIDITY	31	*
DEW POINT	10.7	°c .
DENSITY	1003	GM/M ³
WIND SPEED	Calm	MPH
WIND DIRECTION	Calm	DEGREES
CLOUD COVER	1 0.0	Cu
CLOUD COVER	1 3.5	Сь

TABLE 4. PILOT-BALLOON-MEASURED WIND DATA (30-METER INCREMENTS)

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
SFC	Calm	Calm
30	Calm	Calm
60	Calm	Calm
90	Calm	Calm
120	Calm	Calm
150 .	068	.5
180	090	.5
210	083	3.0
240	075	5.0
270	050	3.5
300	024	2.0
330	018	2.5
360	011	3.0

HEIGHT METERS AGL	DIRECTION - DEGREES	SPEED MPH
390	030	4/0
420	048	4.5
450	048	6.0
480	048	7.0
510	043	8.0
540	037	8.5
570	051	8.5
600	064	8.0
630	050	8.0
660	036	7.5
690	033	7.0
720	029	6.0
750	028	7.5

Release Point Coordinates (WSTM): X486,037.24 Y486,037.24 H3977.30

Released from LC-33 on 31 May 1979 at 1200 LST .

Type 19305A GSRS , Missile No. 1044 , Round No. V-34 launched from LC-33 on 31 May 1979 at 1200 LST.

NOTE: Wind directions are referenced to the firing azimuth or true north true north.

Page 2 of 2 Pages

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
780	027	8.5
810	023	8.0
840	019	7.5
870	025	5.5
900	031	3.5
930	054	2.0
960	076	.5
990 .	124	1.5
1020	172	2.0
1050		
1080		
1110		
1140		
1170		
1200		
1230		
1260		
1290		
1320		
1350		
1380		
1410		

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED MPH
1440		
1470	•	
1500		
1530		
1560		
1590		
1620	341 66	
1650	5 4	L- 1
1680		
1710		
1740	5 7 5 7	
1770	4	
1800		
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1860		
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2010		
2040		
2070		100

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2.9 11.5 -32.9 15.0 669.3 630.3 530.5 31.8 1.00015 2.9 12.5 -32.9 15.0 669.3 630.3 530.5 31.8 1.00015 2.9 12.5 -32.7 16.5 647.6 620.0 239.9 26.5 1.00014 2.0 -14.3 -31.8 20.8 637.2 620.9 240.1 22.9 1.00014 2.2 -15.3 -32.1 22.1 620.9 625.7 200.9 21.3 1.00014 2.1 -10.5 -33.9 22.4 607.4 622.4 225.1 23.6 1.00014 2.7 -17.6 -33.9 22.4 607.4 622.4 220.0 24.7 1.00013 2.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00015			-20.	0 1	30	655.0			.00015
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2.2 13.4 -32.2 18.7 62.0 620.0 240.1 250.9 31.2 1.00014 23.4 -32.2 18.7 657.2 620.0 240.1 220.9 26.5 1.00014 4.2 -15.3 -32.1 22.1 620.9 620.7 250.9 21.3 1.00014 4.5 -15.3 -32.0 22.2 617.1 624.3 201.4 21.7 1.00014 5.7 -17.6 -33.9 22.4 607.4 622.8 225.1 23.8 1.00013 20.7 -18.8 -34.9 22.5 597.9 621.4 220.0 24.7 1.00013 27.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00013	v .		-35.	0 4	י ער ט ער	0.000	0 0	:.	61000.
3.6 - 14.3 - 31.8 20.8 637.2 620.9 240.1 22.9 1.00014 4.2 - 15.3 - 32.1 22.1 620.9 620.9 240.1 21.3 1.00014 4.5 - 10.5 - 33.9 22.4 617.1 624.3 223.1 23.8 1.00014 5.7 - 17.6 - 33.9 22.4 607.4 622.8 225.1 23.8 1.00013 6.7 - 18.8 - 34.9 22.5 597.9 621.4 220.0 24.7 1.00013 7.9 - 19.9 - 35.8 22.7 563.5 620.0 210.5 25.5 1.00013	4 .	77.	1 22.	0 0	200	1.620	0 0	•	+1000.
4.2 -15.3 -32.1 22.1 620.9 62.3 20.014 4.8 -10.5 -33.9 22.4 617.1 62.3 223.1 23.8 1.00014 5.7 -17.6 -33.9 22.4 607.4 62.4 225.1 23.8 1.00013 0.7 -18.8 -34.9 22.5 597.9 621.4 220.0 24.7 1.00013) "	6 -14.	3 -31.	0	37.	0.000		00	1000
4.8 -10.5 -33.9 22.4 617.1 624.3 231.4 21.7 1.00014 52.7 -17.6 -33.9 22.4 607.4 622.8 225.1 23.8 1.00013 7.9 -18.8 -34.9 22.5 597.9 621.4 220.0 24.7 1.00013 7.9 -19.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00013	t	2 -15	3 -32.	,		655.7	2	, -	1000
5.7 -17.6 -33.9 22.4 607.4 622.8 225.1 23.8 1.00013 0.7 -18.8 -34.9 22.5 597.9 621.4 220.0 24.7 1.00013 7.9 -19.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00013		2 -10	5 -33.	10	17.	0.4.0			41000
7.9 -19.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00013	4)	7 -17	6 -33.	i	07.	67.50	25.	3	.00013
7.9 -19.9 -35.8 22.7 563.5 620.0 210.5 25.5 1.00013	0	7 -13	8 -34,	3	.10	621.4	.07	+	.00013
	127	-19	9 -35.	è	83.	620.0	10.	· Ci	.000013

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ATES DEG DEG		131	126	124	122	120	116	114	2115	011	107	105	103	101	100	960	160	193	160	680	000	980	0083	181	620	920	976	174	27.	020	890	26.6	165	-
GEODETIC COOMDINATE 32-48034 LAT DE 106-42307 LON DE	INDEX OF REFRACTION	1.0001				1.000118		1.000114			1.000107				1.000100			•		•		1.000084	•	.00	•	•		20000-1	1.00007		1.000068		1.000765	
GEODETIC 32.4 106.4	SPEED KNOTS	26.3	27.1	27.0	27.2	27.1	56.9	26.9	27.7	70.60	30.1	59.4	28.3	27.5	26.9	27.3	28.1	29.5	31.2	34.1	27.72	38.2	37.4	36.1	35.2	35.0	24.0	0.00	36.1	35.9	35.4	34.0	32.7	
	WIND DATA DIRECTION S DEGREES(IN) K	216-1				229.1	229·B	231.5	231.8	7.107	227.0	220.5	225.8	2.525	20.4.0	223.0	222.4	250.2	227.0	251.4	1000	730.0 730.0	6.002	4.002	437.4	230.0	240.1		745.7		40.	* 17.7	0.647	
ATA 12	SPEED OF SOUND KNOTS	618.6	610.1	614.8	613.5	616.5	608.9	607.3	1.009	507.5	6000	2.665	597.3	593.3	593.0	594.3	569.0	587.8	530.5	565.5	0.490	581.7	560.0	5.675	579.1	578.5	577.8	570	575.9	575.5	575.0	6.0.0		
UPPER AIR OATA 1510060161 S M R	DENSITY S GM/CUBIC METER	579.3	560.4	551.1	542.2	0.000	516.3	503.1	6.654	6.164	476.3	468.8	461.5	454.4	447.1	432.0	424.3	416.4	408.7	401.0	0.00	379.0	371.7	364.2	356.5	349.0	344.0	4. 7.C.K	320.4	315.4	300.5	590.4	-	
	REL . HUM. PERCENT	22.8	0	6		00	7.	19.1	· .	- 0	23.7		6.1*	6.5**																				
T NSL MST	TEMPERATURE ATR DEWPOINT BREES CENTIGRADE	-36.7	-39.4	-41.0	-42.6	140.0	-45.6	-46.2	1.95	1000		1.61-	÷	-62.6																				
997.30 FEET MSL 1125 HRS MST	A TEMPI A TR DEGREES	-21.1	23.1	.24.1	-25.2	-27.6	-28.9	-30.5	-31.8	134.0	-35.3	-36.6	-38.1	-39.7	14:11	-43.5	9-44-	2.67	-46.5	147	***	.50.5	51.0	-51.7	.55.5	-52.7	-53.1	154.1	9.49.	-55.0	-55.3	-54.6	-54.3	
2 4	PRESSUME	419.2	405.4	294-1	383-9	370.0	562.1	4.430	246.9	537.5	325-2	518.3	311.4	204.6	297.9		278.4	272-1	265.9	0.000	20.00	242.6	237.0	231.5	226.1	550.9	215.7	205.8	201.0	190.3	191.7	167.2	162.8	
STATION ALTITUDE 31 MAY 79 ASCENSION HO. 10	GEOMETRIC ALTITUDE MS. FEET	23500.0	5	-000	000	200	00		0.00002	240000	43500.0	0.00000	30560.0	0.00015 8	51500-0	32500.0	0.00000	3.500350	2-0000-0	0.0003	0 0000	0.0000	50500.0		:		30	000		-		-	0.00074	

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION. * *

THE PLOT STREET TO DOG

UPPER AIR DATA

C COORDINATES 48034 LAT DEG 42307 LON DEG	INDEX OF REFRACTION	.00006	.00005	0000	.00005	.00000	.0000	.00000	.00005	1.000051	.00000	+00000-	+0000·	+0000.	+00000	•	+00000	+0000·	+0000·	+00000 •	+00000 •	+00000 •	0000	.00003	.00003	1.000035	.00003	.00003	.00003	. 0003	.00003	50000	.00000	-00000-	.00002	20000	-00000	00000	00000
GEODETIC 32.4	SPEED KNOTS	30.8	29.5	28.1	27.8	27.8	28.5	30.5	32.4	33.8	35.1	35.7	9000	200.4	30.4	55.3	25.2	34.9	34.7	33.9	32.9	31.9	31-1	30.4	3,000	0.70	24.6	23.3	22.3	22.1	21.9	22:1	22.7	23.4					
	WIND DAY DIRECTION DEGREES(TN)			250.7				100	112	248.1	23	-			-	-				-		-			-	7.100			-				12						
4.4 A	SPEED OF SOUND KNOTS	574.7	. +	:		:	:	•		569.8		569.0		•	•	565.4	204.1	2007	561.5	500.2	550.9	557.8	550.3	558.7	0.000	いっている。	551.3	504.2	561.6	561.0	500.4	559.4	2260	559.9	50005	550.5	550.0	502.0	554.9
UPPER AIR DA 1510050151 S M R	DENSITY S GM/CUBIC METER	72	99	60	55	40	ささ	39	34	223.8	57	18	20	500	0 0	000	30	T	9	30	00	17	· .	00	0 0	71 L	200	0	3	0	1	3	.0	7.			-	+	ċ
_	REL.HUM. PERCENT																																						
39 FEET MSL 5 HRS MST	TEMPERATURE AIR DEWPOINT GREES CENTIGRADE	10	, ,	56.0		7.	÷	å	å	-59.2	*			9.09-	01.0	07.00	22.0	54.5	9.09	4.00	00			69	00	7.10		5:39	4.59	-55.8	60.2	-55.7	66.d	60.6	69	0	0	ċ	65.3
.TITUDE 3997.	PRESSURE MILLIBARS DE	2.07	65.2	62.3	50.5	54.7	51.1	47.4	43.9	140.5	1./0	33.8	30.0	0.17	****	21.5		12.0	15.0	6.60	2.70	04.0	0.70																. 00
STATION ALT 31 MAY 79 ASCENSION N	GEUMETRIC ALTITUME MSL FEET P	0	0	5	5	5		0	0.	47500.0		·	3:	5		. 50000		0	5	:	2	0	5	5		2 0	0	0	3	9	0	6	-	0	00	00		9	

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GEODETIC COORDINATES 32.48034 LAT DEG 106.42307 LON DEG	PRESSURE MILLIBARS "	6.520+1 7.000+1 7.830+1 8.880+1 9.180+1 1.000+2
GEODETIC 32.48 106.42	TEMPERATURE AIR DEG C	-61.5 -65.9 -66.9 -64.7 -65.9
АТА	DEW PT DEP	Ø
MRN SIGNIFICANT LEVEL DATA 1510769161 S M R		-9999.** -9999.** -9. -10. -10.
MRN SIGNIFIC 1510 S M R	WIND DATA O N~S MPS	* * *
ET MSL MST	SPEED SPEED	99999 112. 12. 13.
JE 5997-30 FEET MSL 1125 HRS MST	DIRECTION LES (TR)	99999.** 233. 232. 231. 241.
STATION AETITUDE 31 MAY 79 ASCENSION NO. 10	GEOPOTENTIAL ALTITUDE JECAMETENS	1912- 1469- 1724- 1724- 1724- 1053-

WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND CLEVATION ANGLES.

STATION ALTITUDE 3997.30 FEET MSL
31 MAY 79 1125 HRS MST
ASCENSION NO. 101

MANDATORY LEVELS 151006015; 5 M R

GEODETIC COORDINATES 32.48034 LAT DEG 106.42307 LON DEG

PRESSURE 6	PRESSURE GEOPOTENTIAL	TEM	TEMPERATURE	PEL . HUM.	MINO	DATA
MILLIBARS	FEET	DEGREES C	CENTIGRADE	PERCENT	DIRECTION SPE DEGREES(IN) KNO	SPEED KNOTS
850.0	4395.	24.6	#:#	27.	27.9	2.2
800.0	6624.	19.8	7.4	45.	24.3	2.0
750.0	8432.	15.2	-2.6	29.	144.5	3.8
700.0	10331.	9.6	-3.5	36.	156.0	7.0
0.050	12331.	4.3	-5.4	· ~ +	169.9	9.5
0.009	14447.	-1.7	-8.3	61.	207.3	18.1
550.0	16694.	9.9-	-19.5	35.	223.3	28.6
500.0	19117.	-11.8	-33.1	15.	237.1	31.8
450.0	c1739.	-17.1	-33.5	.55	228.0	22.7
0.004	.10942	-23.3	-39.9	20.	220.8	27.1
350.0	27760.	-30.9	-46.5	20.	234.1	27.1
300.0	31279.	-40.7			224.4	27.1
250.0	55274.	-49.1			235.4	37.5
200.0	40010.	-54.7			242.3	30.1
175.0	42310.	-55.5			247.0	31.7
150.0	46021.	-58.4			850.d	29.0
125.0	49763.	-61.4			248.6	35.4
100.0	54217.	-67.5			240.9	30.6
90.0	53653.	-66.5			232.9	21.8
0.07	6130p.	6.59-				

AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERFOLATION. **

ALTITUDE :	3997-30 FEET MSL	151006016
79	79 1125 HRS MST	S N

GEODETIC COORDINATES 32.48034 LAT DEG 106.42307 LON DEG	E PRESSURE MILLIBARS	4.0000.0000.0000.0000.0000.0000.0000.0	8.500+2
	TEMPERATURE AIR DEG C	11000000000000000000000000000000000000	24.6
	DEW PT DEP DEG C	69999999999999999999999999999999999999	20
MRN MANDATORY LEVELS 1510060161 S M R	의 조 주 및	99999999999999999999999999999999999999	;
	DATA N-S WPS	-9999 7-7-7-8-11-9-10-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9	-1-
MSL IST	WIND DV SPEED MPS	9999 111111111111111111111111111111111	•
STATION ALTITUDE 3997.30 FEET MSL 31 MAY 79 1125 HRS NST ASCENSION NO. 101	DIRECTION DEG (TN)	99999. 233. 241. 241. 221. 223. 223. 223. 223. 244.	-82
	GEOPOTENTIAL ALTITUDE UECAMETENS	11 11 12 12 13 14 15 15 15 15 15 15 15 15 15 15 15 15 15	149.

** WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.